

Site

Team

Evaluation

Prioritization

L0894695045-Kane
Phillips, Thomas LF
ILD 980902134
SF/HRS

ESI

EPA Region 5 Records Ctr.



362193

CERCLA Report



**Illinois Environmental
Protection Agency**

2200 Churchill Road
P. O. Box 19276
Springfield, IL 62794-9276

12/1/90
TABLE OF CONTENTS

<u>SECTION</u>	<u>VOLUME 1</u>	<u>PAGE</u>
1	Site Background.....	1
	1.1 Introduction.....	1
	1.2 Site Description.....	2
	1.3 Site History.....	3
	1.4 Regulatory Status.....	4
2	STEP Activities.....	4
	2.1 Reconnaissance Activities.....	5
	2.2 Interviews.....	5
	2.3 Sampling Activities.....	6
	2.4 Sampling Results.....	6
3	Site Sources.....	8
	3.1 Source Definition.....	8
4	Migration Pathways.....	9
	4.1 Surface Water Pathway.....	9
	4.2 Soil Exposure Pathway.....	10
	4.3 Groundwater Pathway.....	10
	4.4 Air Pathway.....	11
	Figures and Tables are located at the end of the text.....	13-17

ESI -09/5-
W.C.

Appendix

- A 4 mile radius map
- B Area Wetland Map
- C Target Compound List & Data Qualifiers
- D Site Photographs
- E Air Photography

VOLUME 2

- F Analytical Results (under a separate cover)

1. SITE BACKGROUND

1.1 INTRODUCTION

On September 30, 1995 the Illinois Environmental Protection Agency's CERCLA Site Assessment Program was tasked by the U.S. Environmental Protection Agency (USEPA) to conduct a Site Team Evaluation Prioritization (STEP) of the Phillips Thom Landfill.

This investigation was undertaken by the authority of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 40 CFR, 1980 as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986.

The Phillips Thom Landfill was initially placed on the Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) in response to the State of Illinois concerns that past site activities may have caused groundwater contamination and/or surface contamination of the surrounding area.

In April of 1996 the Illinois EPA's CERCLA Site Assessment Unit prepared a Site Team Evaluation Prioritization Work Plan for the Phillips Thom Landfill, which was submitted to the Region V Offices of USEPA for review. A site safety plan was also prepared at this time, and after being reviewed by the Illinois EPA's Office of Chemical Safety, the field activity portion of the inspection occurred on May 8, and May 29 and 30, 1996. The CERCLA Inspection

included the collection of four residential drinking water samples, three on-site groundwater samples, and four on-site soil samples.

1.2 SITE DESCRIPTION

The landfill is located south of the Route 30 bypass and west of Albright road in Montgomery, Kane County, Illinois (see figure 1 and 2). Bordering the site to the south are residences, to the west and north farm fields, and to the east commercial properties. Further out to the south and west are more residential and industrial areas. Aurora is located 2 miles northeast of the site and the Fox River is 0.5 miles to the east.

The site is inactive and occupies a 22 acre area (see figure 3). A newly constructed road (Bohr Avenue) divides the site into two sections . The northern section has exposed waste materials and is poorly vegetated. The southern section essentially is void of any vegetation and has a loose sand and gravel surface. No final cover material was noted on either section. Bohr Avenue appears to be part of a planned commercial development that will encompass the entire disposal area. Two truck depot facilities are currently located in this area.

The sources at this site would consist of the disposal area and the materials dumped in it. These materials were to be non-hazardous, earthen materials but groundwater sampling in the early 1980's has revealed the presence of PCBs. Disposal practices are unknown

except that daily cover was not part of the operations.

HISTORY

The landfill originated as two parcels; one owned by Mr. David Thom (4.75 acres in size) and the other by the Phillips Estate (17.25 acres in size). Only 9.25 of the 17.25 acres were utilized while all of the 4.75 acre parcel was land filled. The Thom parcel was excavated in 1957 for its gravel resources. After the 4.75 acre area had been excavated to a clay layer, at an approximate depth of eight or ten feet, the Phillips section was leased and excavated to the same level. Sometime in 1963 the excavating ended and the landfill operations began, starting with the Thom Property and later the Phillips Property. Originally these operations were permitted by the county under a County Landfill Permit issued in 1959. Later a state development permit was issued by the Illinois Environmental Protection Agency (IEPA) in 1975, after complaints were filed with the Illinois Pollution Control Board (IPCB) in 1974. Operation at the site continue until 1976, when more complaints were filed with the IPCB regarding violations of the Illinois Environmental Protection Act and Chapter 7 of the IPCB Rules and Regulations on Solid Wastes. Orders issued by the IPCB at this time resulted in the cessation of operations and the covering of the site with 30 inches of clay. File information does not indicated if the 30 inch clay cover requirement had been complied with.

Also in 1976 seven groundwater monitoring wells were installed on-site and three more at a later date. According to a 1986 Ecology and Environment report groundwater samples taken in 1980 revealed on-site PCB concentrations of 25 parts per million (ppm) and off-site levels at 0.12 ppm.

In 1984 IEPA conducted a CERCLA Preliminary Assessment (PA) and the site advanced to a CERCLA Site Screening inspection (SSI) conducted in 1986 by a USEPA contractor. The Site Screening Inspection found the monitoring wells blocked by unknown obstructions and this resulted in no groundwater samples being collected.

1.4 REGULATORY STATUS

Regulatory involvement at this site is limited to the above mentioned inspections by the Illinois EPA and USEPA. The original operations at the facility were never regulated under the Resource Conservation Recovery Act, (RCRA) and were not part of any regular inspections by either the Illinois EPA or USEPA. Given the years of operation and the federal and state environmental regulations which existed during this time, the site does not fall under the jurisdiction of the Atomic Energy Act (AEA), Toxic Substances Control Act (TSCA), Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), or the Uranium Mill Tailings Radiation Control Act (UMTRCA).

2 STEP ACTIVITIES

This section contains information gathered during the preparation

of the formal CERCLA inspection and previous IEPA activities involving this site. These activities included the reviewing of Illinois EPA records and preparation of the work plan and an interview with the current and past site owners.

2.1 RECONNAISSANCE ACTIVITIES

In April of 1996 a reconnaissance visit of the Phillips Thom Landfill was made by Mr. Mark Wagner of the Illinois EPA. The purpose of the visit was to observe the current site conditions and tentatively identify sample locations.

Access to the landfill was not restricted. As mentioned earlier a city street now runs east to west and bisects the site. Near the end of the street on its north side is a large open area with exposed: oil soaked wooden blocks, yellow cake material, dark cinder material, metal debris, tires, plastic bags or covers, and areas of standing water. The southern portion was covered with a sand and gravel mixture and had no signs of exposed debris.

It was also noted that the homes bordering the site to the south utilize individual private wells. A small residential area approximately 600 feet west of the site also depends on groundwater as a source of drinking water.

2.2 INTERVIEWS

On May 29, 1996 prior to the collection of any samples the author

met with the current site owner and at this time explained the general program objectives of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA). Further emphasis was placed on the need to evaluate the current condition of the site and its impact on the surrounding area. At this time the owner stated that he did not have any prior knowledge that this property was a CERCLA site.

Later on May 29, 1996 Mr. Thom and Mr. Phillips spoke with the author regarding past site activities. No new information surfaced during these interviews.

SAMPLING ACTIVITIES

The 1996, CERCLA field sampling activities were divided into two sampling events, May 8, off-site residential drinking water samples and May 29, 30, on-site groundwater and soil sampling. The soil samples were collected using stainless steel trowels and augers. All sampling was performed in accordance with IEPA sampling methods and procedures. Four soil samples were collected within 24 inches of the surface, on-site to determine the level and extent of the contamination of the landfill. Figure 3 outlines the sample locations from the May 1996, STEP. Sample descriptions are summarized in Table 1.

SAMPLING RESULTS

Several volatile and semivolatile organic and inorganic substances

were detected at numerous on-site sample locations during this STEP Inspection. On-site groundwater samples had elevated levels of: chloroethane, acetone, 2-butanone, benzene, toluene, ethylbenzene, xylene, arsenic, lead, and cyanide. MCLs (Maximum Contaminant Levels) were exceeded for benzene which was detected at 51 parts per billion (ppb) (5 ppb MCL), ethylbenzene 4,300 ppb (700 ppb MCL), xylene 18,600 ppb (10,000 ppb MCL), and lead 35 ppb (15 ppb MCL). RALs (Removal Action Levels) were also exceeded for ethylbenzene 4,300 ppb (1,000 ppb RAL), and naphthalene 410 ppb (100 ppb RAL).

On-site soil samples had levels three times background for: trichloroethene, 4-methylphenol, naphthalene, 4-chloraniline, 2-methylnaphthalene, phenanthrene, fluoranthene, pyrene, butylbenzophthalate, di-n-octylphthalate, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, magnesium, mercury, nickel, selenium, thallium, zinc, and cyanide. RALs were exceeded for, arsenic which was detected at 87 ppm (8 ppm RAL), chromium 510 ppm (200 ppm RAL), cyanide 37.4 ppm (12 ppm RAL), and total Polynuclear Aromatic Hydrocarbons (PAHs) 1430 ppm (500 ppm RAL).

Off-site sampling was performed for drinking water only. One sample location had elevated levels of lead 307 ppb (15 ppb MCL), and manganese 185 ppb (150 ppb MCL).

Key samples from the STEP inspection are presented in Table 2.

The complete analytical data package for Phillips Thom Landfill is located in Appendix F, and contains a copy of the Target Compound List (TCL) and data qualifiers used by USEPA.

3 SITE SOURCES

3.1. SOURCE DEFINITION

One source was identified at the Phillips Thom Landfill, it is the 14 acre landfill. According to the 1986, SSI report 9.25 acres of the Phillips property and 4.75 acres of land belonging to Mr. Thom were used as a landfill. The 1996 CERCLA inspection found groundwater contaminants that include: chloroethane, acetone, 2-butanone, benzene, toluene, ethylbenzene, xylene, arsenic, lead, and cyanide. Soil samples revealed elevated levels of: trichloroethene, 4-methylphenol, naphthalene, 4-chloraniline, 2-methylnaphthalene, phenanthrene, fluoranthene, pyrene, butylbenzophthalate, di-n-octylphthalate, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, magnesium, mercury, nickel, selenium, thallium, zinc, and cyanide.

This was a county permitted landfill that accepted wastes primarily from Caterpillar Corporation and Armour/Dial. Later the site received a Development Permit from the Illinois EPA, which allowed the facility to accept only clean earthen material, portland cement, brick, and asphaltic cement.

Currently it is estimated that 1/3 of the site is exposed and sample results found ten organic and 15 inorganic substances on the surface of this area. On-site groundwater samples also detected several of these contaminants. Lead has been detected in both the on-site soil and groundwater samples and in one residential drinking water sample.

4 MIGRATION PATHWAYS

4.1 SURFACE WATER PATHWAY

The surface water pathway starts where surface water run-off from the site enters the first perennial water body. This location is referred to as the probable point of entry (PPE). The PPE for Phillips Thom is located where site run-off enters the Fox River 0.5 miles east of the site. Site run-off is directed to the southeast corner of the site and collects in a newly created basin. Water from this basin is channeled through a series of culverts and ditches that terminate 0.5 miles from the site at the Fox River. The Fox River is a fishery and has surface water intakes three to five miles upstream of the site. Numerous wetlands are located along this river and are contiguous due to their proximity to a perennial water body. These wetlands are classified as palustrine, emergent, scrub-shrub, forested, broad-leaved deciduous, temporarily flooded, and seasonally flooded, wetlands.

During this inspection and previous inspections no signs of contamination were noted along the surface water runoff route to the Fox River. No sediment samples were taken for that reason.

4.2 SOIL EXPOSURE PATHWAY

Five soil samples were collected during the May 1996 STEP, one background and four on-site samples. As mentioned earlier these samples detected 15 inorganic and ten organic substances. RALs were exceeded for four of these contaminants: PAHs, arsenic, chromium, and cyanide. All soil samples were collected within the top 24 inches of the surface.

Approximately 1/3 of the site is not covered and lacks any ground-covering vegetation. Access to the site not restricted. Two business are located on-site, on previously filled land. Approximately five people are employed at these companies. A small residential area borders the site 300 feet to the south and a larger group of homes are located 600 feet to the west. Approximately 3,830 people reside within one mile of the site.

4.3 GROUNDWATER PATHWAY

The site is located in a former gravel pit. The landfill has an in situ bottom clay liner but has no sidewall liner to limit the horizontal migration of contaminants. According the Illinois State Water Survey, this area is underlain by three major water-bearing units. They are a glacial drift unit, a Silurian dolomite

formation, and the Cambrian-Ordovician aquifer system. The glacial drift deposit ranges in thickness from zero to 10 feet and is composed of generally well-sorted, well-bedded sands and gravels near the site. The Silurian dolomite is an approximately zero to 200-foot thick formation consisting of two layers: the Niagarian series overlying the Alexandrian series. The glacial drift aquifer and the Silurian dolomite aquifer appear to be hydraulically connected and together form the aquifer of concern (AOC). The Ordovician system consists of alternating dolomite, shale, and sandstone layers underlying the Silurian system. The Ordovician system ranges from approximately 700 to 1,000 feet thick. Within four miles of the site there are approximately 61,000 people that depend on groundwater as a source of drinking water.

Past sampling has found PCBs in an on-site monitoring well and in an off-site private well. Groundwater samples collected as a part of the 1996, CERCLA STEP inspection did not report any detectable PCBs, but did show lead migrating to an off-site private well. Nine organic compounds were also detected in the on-site groundwater of which benzene, xylene, and naphthalene exceed current RALs. On-site and off-site groundwater lead levels were also in excess of the current MCLs.

4.4 AIR PATHWAY

The closest resident is 300 feet to the south and approximately

five people work at the two businesses located on-site. There are no air related complaints on file with the IEPA or inspections due to air emission problems.

The site is divided into two sections by a new road. The northern section has exposed wastes materials and is poorly vegetated. The southern section essentially is void of any vegetation and has a loose sand and gravel surface. No final cover material was noted on either section. Approximately 32,050 people reside within three miles of the site.

TABLE 1

SAMPLE DESCRIPTIONS

Phillips Thom Landfil

ILD 980902134

SAMPLE	DEPTH	APPEARANCE	LOCATION
May 8, 1996			
G101	N/A	clear no odor	11 Pasadena Drive Oswego, IL 60543
G102	N/A	clear no odor	27 Baseline Road Oswego, IL 60543
G103	N/A		duplicate of G102
G104	N/A	clear no odor	Route 31 @ Baseline Road Montgomery, IL 60538
G105	N/A	clear no odor	4822 Baseline Road Montgomery, IL 60538
May 29, 30, 1996			
G201	16'	silty no odor	southeast corner of main fill area north side of Bohr Avenue
G202	unknown	clear no odor	northwest corner pvc Monitoring Well
G203			duplicate of G202
G204	8'	silty no odor	north side of Bohr Ave. due north of unfinished road, center of fill area
X101	4"	silty-loam	farm field west of site background sample
X102	N/A	dark cinder material	large pile of "Caterpillar Cinders" northwest part of Thom property
X103	18"	waste material	yellow paint sludge
X104	24"	dark cinder material	north side of Bohr Ave. due north of unfinished road, center of fill area
X105	4"	dark fine cinder material some sand	north of Bohr Ave. far west side
X106			duplicate of X105

SITE NAME: Phillips Thom
Landfill

TABLE 2
SAMPLE SUMMARY
(soil samples)

ILD 960902134

96IE19

SAMPLING POINT (soil samples)	X101 S06	X102 S07	X103 S08	X104 S09	X105 S10	X106 D10
-------------------------------	-------------	-------------	-------------	-------------	-------------	-------------

PARAMETER

VOLATILES (ppb)

1,1-Dichloroethane	--	--	--	12J	--	--
1,2-Dichloroethene (total)	--	--	7.0J	--	--	--
Trichloroethene	--	--	150J	6.0J	4.0J	15J
Tetrachloroethene	--	--	5.0J	7.0J	9.0J	81J
Toluene	--	--	--	--	9.0J	14J
Xylene	3.0J	--	--	--	--	--

SEMIVOLATILES (ppb)

4-Methylphenol	--	--	260J	300J	--	--
Naphthalene	--	350J	730J	3.0J	--	--
4-Chloroaniline	--	--	--	350J	--	--
2-Methylnaphthalene	--	490J	380J	--	--	--
Phenanthrene	--	340J	330J	320J	200J	250J
Fluoranthene	--	--	--	190J	--	--
Pyrene	--	--	--	170J	--	--
Butylbenzylphthalate	--	--	550J	--	260J	--
Di-n-Octylphthalate	220J	1090J	470J	140J	880J	490J

PESTICIDES /PCBs (ppb)

beta-BHC	--	--	.035D	--	--	--
Aroclor-1254	--	--	--	.24D	--	--

INORGANICS (ppm)

Arsenic	5.9	47	25	36	81	87
Barium	180	750	59	180	37	36
Beryllium	0.5	11	3.2	1.9	6.8	6.3
Cadmium	0.40	0.53	--	--	13	8.4
Chromium	18	19	510	330	23	18
Cobalt	11	36	9.3	3.6	7.9	7.9
Copper	13	150	270	150	71	68
Lead	31	62	350	150	180	170
Magnesium	2200	790	490	20000	890	760
Manganese	1300	120	190	310	150	130
Mercury	--	0.3	--	0.6	0.3	0.3
Nickel	11	57	82	120	60	51
Selenium	0.6	28	0.8	1.4	2.8	2.4
Thallium	--	2.6	0.7	0.5	1.9	1.7
Vanadium	30	81	48	18	46	42
Zinc	62	82	1500	850	1300	1000
Cyanide	--	--	37.4	10.7	0.7	0.6

ILID 980902134

TABLE 2
SAMPLE SUMMARY
(water samples)

[illegible]



FIGURE 1
SITE LOCATION MAP
PHILLIPS THOM LANDFILL

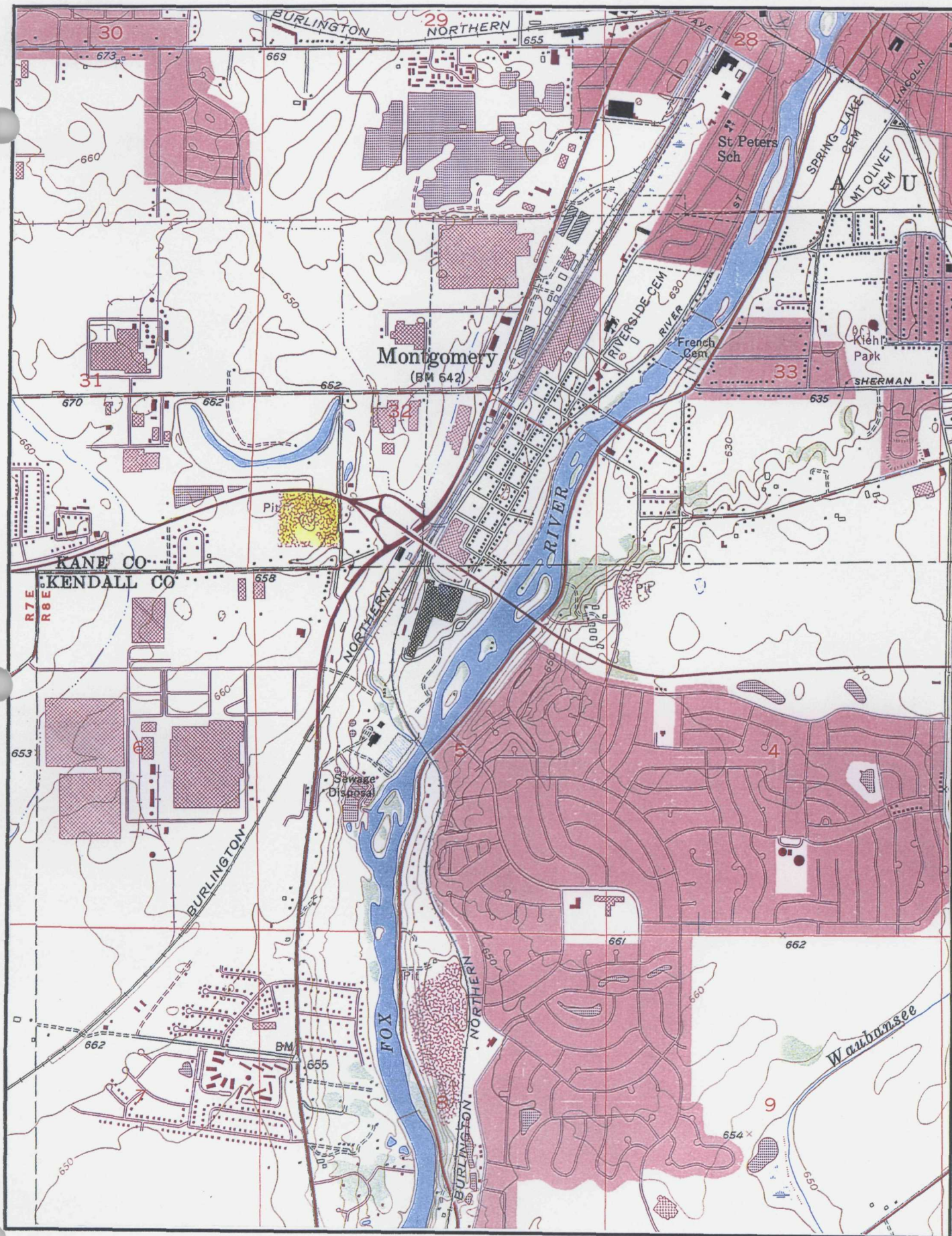


FIGURE 2
TOPOGRAPHIC MAP
PHILLIPS THOM LANDFILL



PHILLIPS THOM LANDFILL
AIR PHOTOGRAPHY
April 1994
scale 1:2400

Route 30

G202

G203 •

X103 •

G204

• X102

•

•

X105&X106 •

X104

X101

• G201

G101

Bohr Ave.

APPENDIX A
4 MILE RADIUS

Landfill

Albright Road

G102

•

G103

Baseline Road

G104

G105

SAMPLE LOCATION MAP
FIGURE 3
PHILLIPS THOM LANDFILL

SDMS US EPA Region V

Imagery Insert Form

Some images in this document may be illegible or unavailable in SDMS.

Please see reason(s) indicated below:



Illegible due to bad source documents. Image(s) in SDMS is equivalent to hard copy.

Specify Type of Document(s) / Comment

--



Confidential Business Information (CBI).

This document contains highly sensitive information. Due to confidentiality, materials with such information are not available in SDMS. You may contact the EPA Superfund Records Manager if you wish to view this document.

Specify Type of Document(s) / Comment

--



Unscannable Material: Oversized X or Format.

Due to certain scanning equipment capability limitations, the document page(s) is not available in SDMS. The original document is available for viewing at the Superfund Records center.

Specify Type of Document(s) / Comment

PHILLIPS THOM LANDFILL TOPOGRAPHIC MAP
--



Other:

--

APPENDIX B
AREA WETLAND MAP

APPENDIX C
TARGET COMPOUND LIST & DATA QUALIFIERS

TARGET COMPOUND LIST

Volatile Target Compounds

Chloromethane	1,2-Dichloropropane	Benzoic Acid	2,4,6-Trichlorophenol
Bromomethane	cis-1,3-Dichloropropene	Phenol	2,4,5-Trichlorophenol
Vinyl Chloride	Trichloroethene	2-Chlorophenol	4-Chloro-3-methylphenol
Chloroethane	Dibromochloromethane	2-Nitrophenol	2,4-Dinitrophenol
Methylene Chloride	1,1,2-Trichloroethane	2-Methylphenol	2-Methyl-4,6-dinitrophenol
Acetone	Benzene	4-Methylphenol	Pentachlorophenol
Carbon Disulfide	trans-1,3-Dichloropropene	2,4-Dichlorophenol	4-Nitrophenol
1,1-Dichloroethene	Bromoform		
1,1-Dichloroethane	4-Methyl-2-pentanone		
1,2-Dichloroethane (total)	2-Hexanone		
Chloroform	Tetrachloroethene		
1,2-Dichloroethane	1,1,2,2-Tetrachloroethane		
2-Butanone	Toluene		
1,1,1-Trichloroethane	Chlorobenzene		
Carbon Tetrachloride	Ethylbenzene		
Vinyl Acetate	Styrene		
Bromodichloromethane	Xylenes (total)		

Base/Neutral Target Compounds

Hexachloroethane	2,4-Dinitrotoluene		
bis(2-Chloroethyl) Ether	Diethylphthalate		
Benzyl Alcohol	N-Nitrosodiphenylamine		
bis(2-Chloroisopropyl) Ether	Hexachlorobenzene		
N-Nitroso-Di-n-Propylamine	Phenanthrene		
Nitrobenzene	4-Bromophenyl-phenylether		
Hexachlorobutadiene	Anthracene		
2-Methylnaphthalene	Di-n-Butylphthalate		
1,2,4-Trichlorobenzene	Fluoranthene		
Isophorone	Pyrene		
Naphthalene	Butylbenzylphthalate		
4-Chloroaniline	bis(2-Ethylhexyl) Phthalate		
bis(2-chloroethoxy) Methane	Chrysene		
Hexachlorocyclopentadiene	Benzo(a) Anthracene		
2-Chloronaphthalene	3,3'-Dichlorobenzidene		
2-Nitroaniline	Di-n-Octyl Phthalate		
Acenaphthylene	Benzo(b) Fluoranthene		
3-Nitroaniline	Benzo(k) Fluoranthene		
Acenaphthene	Benzo(a) Pyrene		
Dibenzofuran	Indeno(1,2,3-cd) Pyrene		
Dimethyl Phthalate	Dibenz(a,h) Anthracene		
2,6-Dinitrotoluene	Benzo(g,h,i) Perylene		
Fluorene	1,2-Dichlorobenzene		
4-Nitroaniline	1,3-Dichlorobenzene		
4-Chlorophenyl-phenylether	1,4-Dichlorobenzene		

Acid Target Compounds

2,4,6-Trichlorophenol
2,4,5-Trichlorophenol
4-Chloro-3-methylphenol
2-Nitrophenol
2,4-Dinitrophenol
2-Methyl-4,6-dinitrophenol
Pentachlorophenol
4-Nitrophenol

Pesticide/PCB Target Compounds

alpha-BHC	Endrin Ketone
beta-BHC	Endosulfan Sulfate
delta-BHC	Methoxychlor
gamma-BHC (Lindane)	alpha-Chlorodane-
Heptachlor	gamma-Chlorodane
Aldrin	Toxaphene
Heptachlor epoxide	Aroclor-1016
Endosulfan I	Aroclor-1221
4,4'-DDE	Aroclor-1232
Dieldrin	Aroclor-1242
Endrin	Aroclor-1248
4,4'-DDD	Aroclor-1254
Endosulfan II	Aroclor-1260
4,4'-DDT	

Inorganic Target Compounds

Aluminum	Manganese
Antimony	Mercury
Arsenic	Nickel
Barium	Potassium
Beryllium	Selenium
Cadmium	Silver
Calcium	Sodium
Chromium	Thallium
Cobalt	Vanadium
Copper	Zinc
Iron	Cyanide
Lead	Sulfide
Magnesium	Sulfate

SPECIAL PESTICIDE LIST

2,4-D

Atrazine

Metolachlor -- Dual

Cyanazine -- Bladex

Fenofos -- Dyfonate

EPTC -- Eptam, Eradicane

Phorate

Metribuzin -- Lexone, Sencor

Trifluralin -- Treflan

Diazinon

Alachlor -- Lasso

DATA QUALIFIERS

QUALIFIER	DEFINITION ORGANICS	DEFINITION INORGANICS
U	Compound was tested for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture. For soil samples subjected to GPC clean-up procedures, the CRQL is also multiplied by two, to account for the fact that only half of the extract is recovered.	Analyte was analyzed for but not detected.
•	Estimated value. Used when estimating a concentration for tentatively identified compounds (TICS) where a 1:1 response is assumed or when the mass spectral data indicate the presence of a compound that meets the identification criteria and the result is less than the sample quantitation limit but greater than zero. Used in data validation when the quality control data indicate that a value may not be accurate.	Estimated value. Used in data validation when the quality control data indicate that a value may not be accurate.
C	This flag applies to pesticide results where the identification is confirmed by GC/MS.	Method qualifier indicates analysis by the Manual Spectrophotometric method.
B	Analyte was found in the associated blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.	The reported value is less than the CRDL but greater than the instrument detection limit (IDL).
D	Identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor as in the "E" flag, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and all concentration values are flagged with the "D" flag.	Not used.
E	Identifies compounds whose concentrations exceed the calibration range for that specific analysis. All extracts containing compounds exceeding the calibration range must be diluted and analyzed again. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration range in the second analysis, then the results of both analyses must be reported on separate Forms I. The Form I for the diluted sample must have the "DL" suffix appended to the sample number.	The reported value is estimated because of the presence of interference.
A	This flag indicates that a TIC is a suspected aldol concentration product formed by the reaction of the solvents used to process the sample in the laboratory.	Method qualifier indicates analysis by Flame Atomic Absorption (AA).
M	Not used.	Duplicate injection (a QC parameter not met).

N	Not used	Spiked sample (a QC parameter not met).
S	Not used.	The reported value was determined by the Method of Standard Additions (MSA).
W	Not used.	Post digestion spike for Furnace AA analysis (a QC parameter) is out of control limits of 85% to 115% recovery, while sample absorbance is less than 50% of spike absorbance.
*	Not used.	Duplicate analysis (a QC parameter not within control limits).
+	Not used.	Correlation coefficient for MSA (a QC parameter) is less than 0.995.
P	Not used.	Method qualifier indicates analysis by ICP (Inductively Coupled Plasma) Spectroscopy.
CV	Not used.	Method qualifier indicates analysis by Cold Vapor AA.
AV	Not used.	Method qualifier indicates analysis by Automated Cold Vapor AA.
AS	Not used.	Method qualifier indicates analysis by Semi-Automated Cold Spectrophotometry.
T	Not used.	Method qualifier indicates Titrimetric analysis.
NR	The analyte was not required to be analyzed.	The analyte was not required to be analyzed.
R	Rejected data. The QC parameters indicate that the data is not usable for any purpose.	Rejected data. The QC parameters indicate that the data is not usable for any purpose.

APPENDIX D
SITE PHOTOGRAPHS

Date: May 8, 1996

Time: 1330

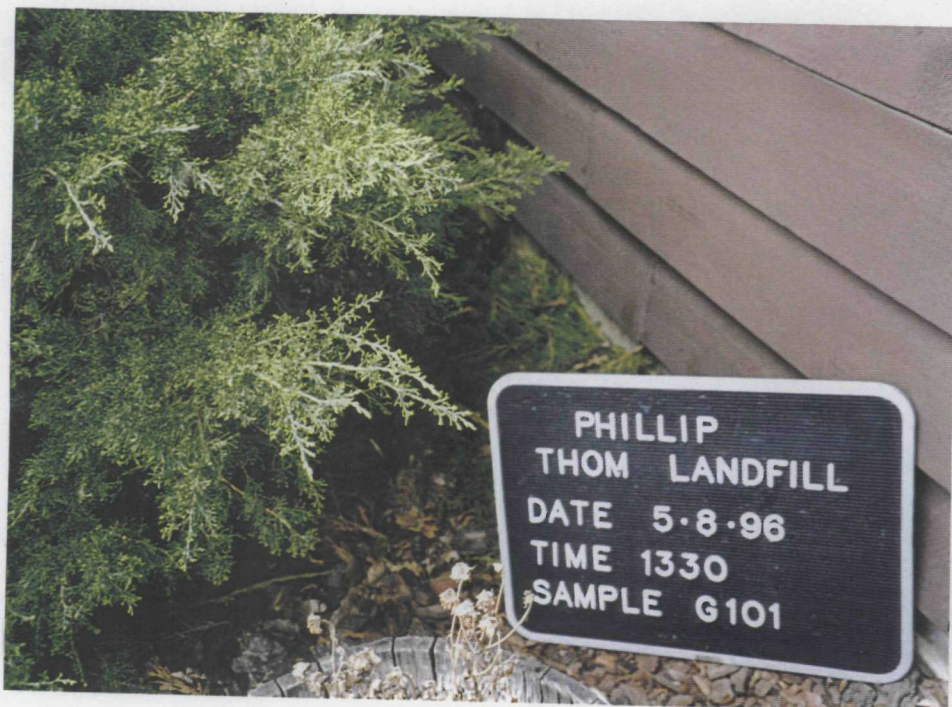
Photo Taken By: Mark Wagner

Site Name/ILD#: Phillips Thom Landfill

ILD 980902134

Sample Location: G101

Description: Residential drinking water sample west of site.



Date: May 8, 1996

Time: 1430

Photo Taken By: Mark Wagner

Site Name/ILD#: Phillips Thom Landfill

ILD 980902134

Sample Location: G102 & G103

Description: Residential drinking water sample south of the site.



Date: May 8, 1996

Time: 1600

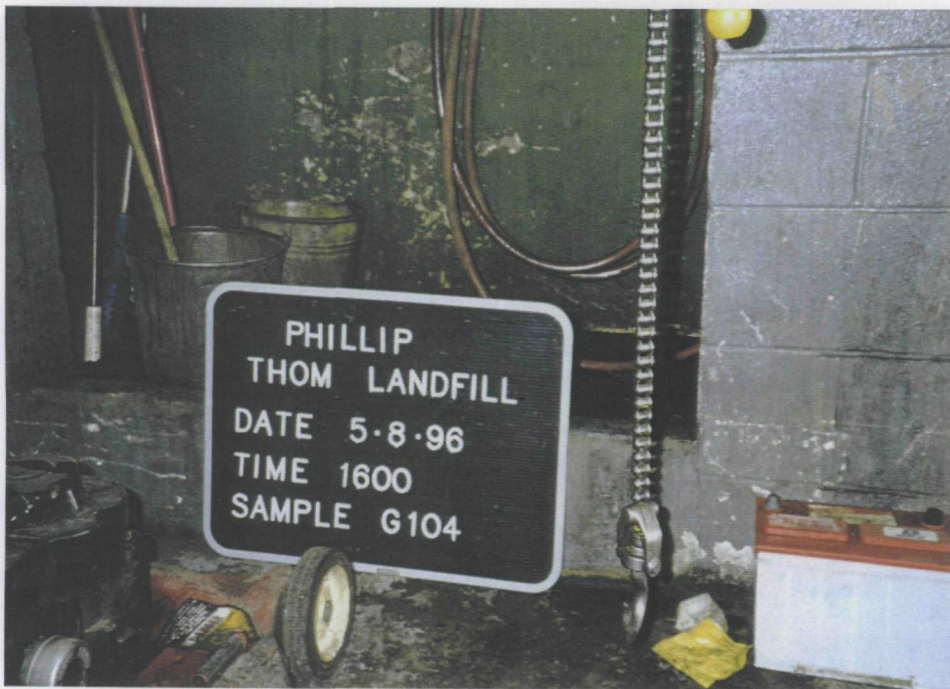
Photo Taken By: Mark Wagner

Site Name/ILD#: Phillips Thom Landfill

ILD 980902134

Sample Location: G104

Description: Residential drinking water sample southeast of site.



Date: May 8, 1996

Time: 1730

Photo Taken By: Mark Wagner

Site Name/ILD#: Phillips Thom Landfill

ILD 980902134

Sample Location: G105

Description: Residential drinking water sample southeast of the site.



Date: May 29, 1996

Time: 1500

Photo Taken By: Mark Wagner

Site Name/ILD#: Phillips Thom Landfill

ILD 980902134

Sample Location: G204

Direction: south

Description: Geoprobe location .



Date: May 30, 1996

Time: 0930

Photo Taken By: Mark Wagner

Site Name/ILD#: Phillips Thom Landfill

ILD 980902134

Sample Location: X102

Direction: south

Description: Black cinder material
found throughout the site.



Date: May 30, 1996

Time: 0930

Photo Taken By: Mark Wagner

Site Name/ILD#: Phillips Thom Landfill

ILD 980902134

Sample Location: X102

Direction: north

Description: Black cinder material found throughout the site..



Date: May 30, 1996

Time: 1115

Photo Taken By: Mark Wagner

Site Name/ILD#: Phillips Thom Landfill

ILD 980902134

Sample Location: G202/G203

Direction: west

Description: monitoring well located in the northwest corner of the site.



Date: May 30, 1996

Time: 1115

Photo Taken By: Mark Wagner

Site Name/ILD#: Phillips Thom Landfill

ILD 980902134

Sample Location: G202/ G203

Direction: north

Description: Monitoring well located in the northwest corner of the site.



Date: May 30, 1996

Time: 1200

Photo Taken By: Mark Wagner

Site Name/ILD#: Phillips Thom Landfill

ILD 980902134

Sample Location: X104

Direction: west

Description: Exposed area that appears to have received a large number of oil-soaked wooden blocks.



Date: May 30, 1996

Time: 1200

Photo Taken By: Mark Wagner

Site Name/ILD#: Phillips Thom Landfill

ILD 980902134

Sample Location: X104

Direction: south

Description: Exposed area that appears to have received a large number of oil-soaked wooden blocks.



Date: May 30, 1996

Time: 1215

Photo Taken By: Mark Wagner

Site Name/ILD#: Phillips Thom Landfill

ILD 980902134

Sample Location: X103

Direction: west

Description: Exposed area of yellow paint or paint sludge.



Date: May 30, 1996

Time: 1215

Photo Taken By: Mark Wagner

Site Name/ILD#: Phillips Thom Landfill

ILD 980902134

Sample Location: X103

Direction: east

Description: Exposed area of yellow paint or paint sludge.



Date: May 30, 1996

Time: 1230

Photo Taken By: Mark Wagner

Site Name/ILD#: Phillips Thom Landfill

ILD 980902134

Sample Location: X105 & X106

Direction: east

Description: Deep sample taken from an area of cinder material.



Date: May 30, 1996

Time: 1230

Photo Taken By: Mark Wagner

Site Name/ILD#: Phillips Thom Landfill

ILD 980902134

Sample Location: X105 & X106

Direction: south

Description: Deep sample taken from an area of cinder material.



Date: May 30, 1996

Time: 1300

Photo Taken By: Mark Wagner

Site Name/ILD#: Phillips Thom Landfill

ILD 980902134

Sample Location: X101

Direction: south

Description: Background sample collected from a cultivated field adjacent to the site.



Date: May 30, 1996

Time: 1300

Photo Taken By: Mark Wagner

Site Name/ILD#: Phillips Thom Landfill

ILD 980902134

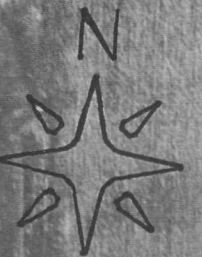
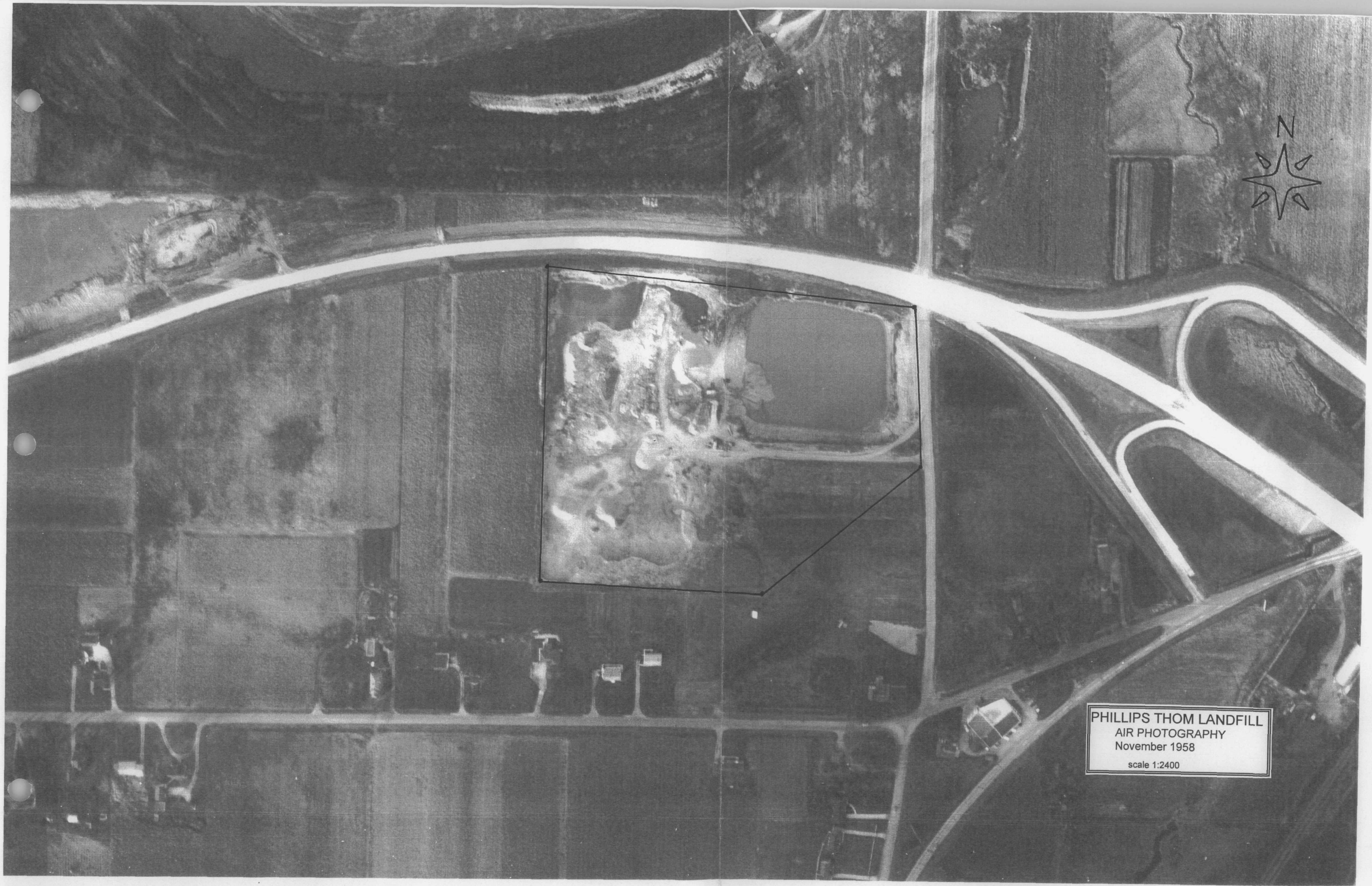
Sample Location: X101

Direction: north

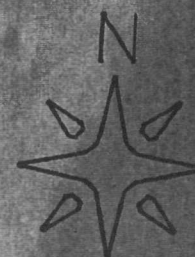
Description: Background sample collected from a cultivated field adjacent to the site.



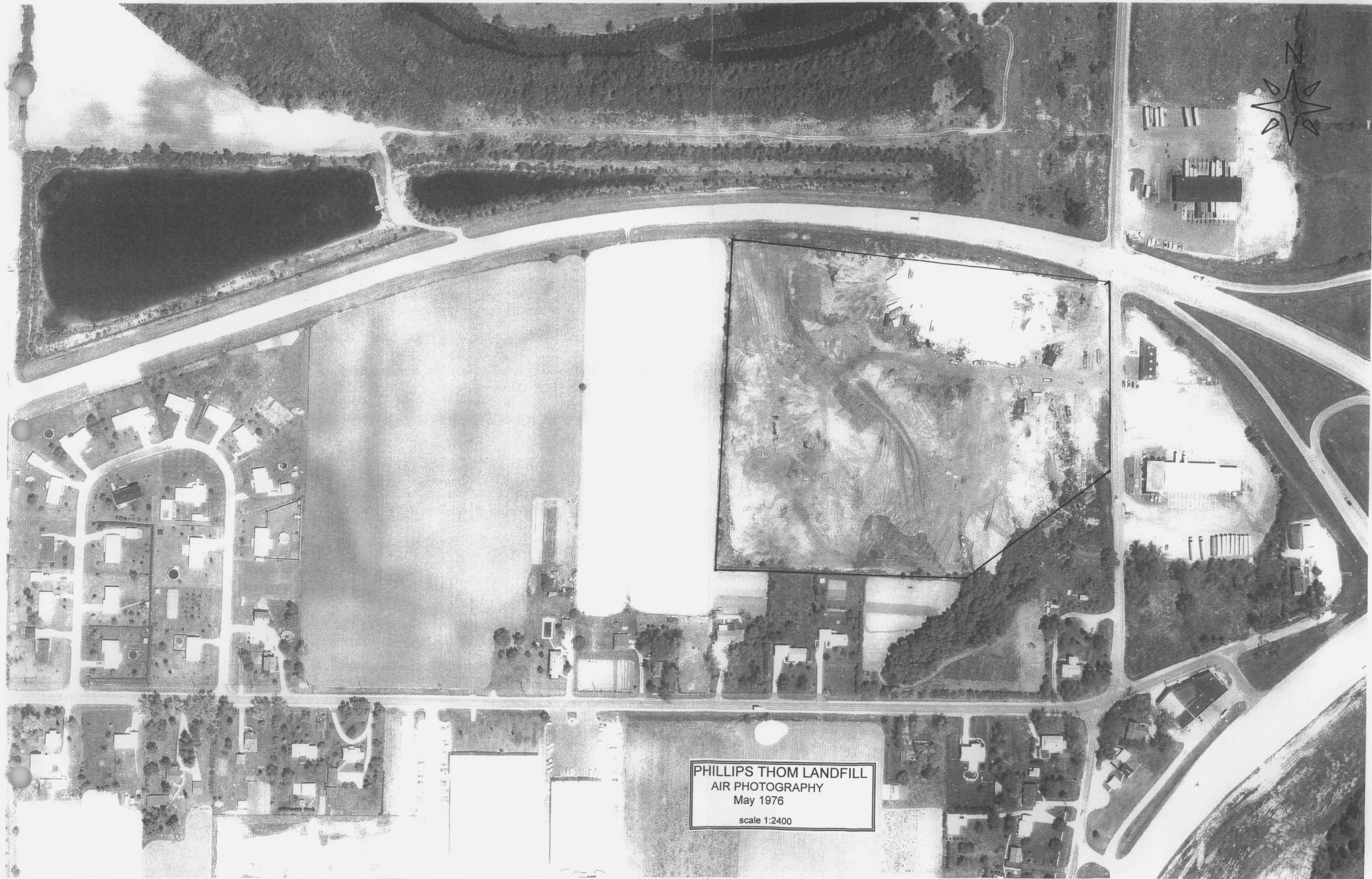
APPENDIX E
AIR PHOTOGRAPHY



PHILLIPS THOM LANDFILL
AIR PHOTOGRAPHY
November 1958
scale 1:2400



PHILLIPS THOM LANDFILL
AIR PHOTOGRAPHY
September 1967
scale 1:2400



PHILLIPS THOM LANDFILL
AIR PHOTOGRAPHY
May 1976
scale 1:2400



PHILLIPS THOM LANDFILL
AIR PHOTOGRAPHY
April 1994
scale 1:2400